



NJDOT OPERATIONS

HURRICANE SANDY SUMMARY

NJ
QC
945
N5
2012
C.1



PRE STORM PREPARATION (CON'T)

- 25 OCT (THU): Regions continue to make hurricane preparations
- 26 OCT (FRI):
 - 0800: NJ OEM increases SEOC to Level II
 - Create and disseminate a SANDY job number
 - NJ OEM holds two state wide conference calls
 - 1330: NJOEM increases SEOC to Level III
 - Decision made NOT to do CONTRA-FLOW
 - "H-hour" established for 0200, MON 29 OCT
 - NJDOT regional activation times established for Sun, 28 OCT
- 27 OCT (SAT):
 - NJDOT activates DOTEOC at 0900
 - NJ OEM holds state wide conference call

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NJ TRANSPORTATION CONTRA FLOW TIMELINE FOR HURRICANE SANDY

**KEY DECISION POINT:
GOVERNOR MAKES "GO"
or "NO GO" DECISION**

NJ STEADY STATE
OF READINESS

TRANSPORTATION PRE-EVENT PREPARATION

NJ SP/OEM TAKE CHARGE AND EXECUTE
DOT SUPPORTS

H - 48hr,
0200, 27
OCT (SAT)

- DOT activate EOCs
- Commence regular internal conf calls
- Test communications
- Adjust plans/resources
- All "Transportation" public communications becomes centralized with NJSP

Steady State:

- Monitor weather
- Monitor state road construction sites
- Inspect and maintain inventory of CONTRAFLOW equipment
- Exercise/drill on CONTRAFLOW plan as much as practical
- Regions manage vacation of personnel so that no more than 50% of personnel on vacation

H - 46hr,
0400, 27
OCT (SAT)

- Call in/keep maintenance crews
- Traffic Sys prepare standard VMS messaging
- Traffic Sys prepare to adjust traffic signal timing
- Traffic Sys prepares to re-deploy SSP vehicles
- Top off vehicles and equipment with fuel
- Check /maintain tree cutting equipment
- Re-deploy wreckers to pre-designated areas

H - 44hr,
0600, 27 OCT
(SAT)

- (Commissioner)
- Order pre-deployment of contra flow equip to all agencies
- Commissioner and OEM are finalizing CONTRAFLOW plans for Governor
- Notify construction contractors to cease construction and prepare areas for storm (CPM)

H - 39hr, 1100,
27 OCT (SAT)

- (Governor)
- "GO" - "NO GO" decision by Gov to implement CONTRAFLOW
- NJSP take charge
- NJSP / DOT crews set up CONTRAFLOW from west to east as directed
- NJSP / SJTA set up CONTRAFLOW from west to east (if directed)
- NJSP / GSP set up CONTRAFLOW from north to south starting with exit ____ and going to Cape May
- 511 messaging changes
- VMS changes
- Commence public service announcements
- Traffic systems adjust traffic signal timing
- Re-deploy SSP vehicles to pre-designated routes

H - 27hr, 2300,
27 OCT (SAT)

- (Governor)
- Mandatory evacuation ordered. Commence CONTRAFLOW from shore areas
- TAs start preparation sfor post storm damage response (trees; washouts; bridge inspections; downed signs; etc.)

H - 3hr,
2300, 28
OCT (SUN)

TAs take down
CONTRAFLOW
equip

H- Hour;
0200, 29
OCT (MON)

- H - HOUR:
The start of tropical storms winds (>39mph sustained winds)



TRANSPORTATION "SHORE EVACUATION" TIMELINE FOR HURRICANE SANDY

**KEY DECISION POINT:
GOVERNOR MAKES "GO"
or "NO GO" DECISION**

Shore county OEM's
open county/municipal
shelters (assumption)

County OEMs monitoring and reporting capacity
of local shelters

STEADY
STATE OF
READINESS

ESF - 1/6 PRE-EVENT PREPARATIONS

NJ SP/OEM TAKE CHARGE AND EXECUTE
(ESF's SUPPORT)

H - 72hr

- (ESF 6/ESF 1 LEADS)
- (ESF-6): Issue "Prepare to Shelter (PTS)" notification to state shelter sites
 - (ESF 1): Issue "Prepare to Evac (PTE)" notification to public and private bus companies.

Steady State:

- Monitor weather
- Monitor state road construction sites
- Evaluate plans and adjust as necessary
- Frequent periodic checks with county and local officials on sheltering plans

H - 48hr;
0200, 27 OCT
(SAT)

- (ESF 1/6)
- (ESF-1): Finalize location of staging areas and county personnel reception centers. Communicate to county OEMs
 - (ESF 1/6): Issue 2nd PTS and PTE notifications
 - (ESF-1): NJT identifies necessary transportation resources (public and private)
 - (ESF-1): DOT activates EOCs (NJT staffs STMC)
 - (ESF-1): Commence regular conf calls
 - (ESF-1) Test communications
 - Adjust plans/resources

H - 36hr: 1400,
27 OCT (SAT)

- (ESF 1)
- NJT puts rail assets away

H - 30hr:
2000, 27 OCT
(SAT)

- (ESF 1)
- NJT starts moving bus and para-transit assets to staging areas

H - 24hr:
0200, 28 OCT
(SUN)

- (Governor)
- "GO" - "NO GO"
- decision by Governor to implement state supported sheltering and transportation (OEM - ESF 1/6)
- (ESF 6) Open state shelters
 - (OEM) Direct county OEM's to open county reception centers. Commence processing of personnel to be transported to state supported shelters
 - (ESF 1) NJT Commence movement of people from reception centers to state supported shelters

H - 12hr: 1400,
28 OCT (SUN)

- (OEM - ESF 1)
- NJT stops rail operations
 - DOT, NJT, OEM begin planning details for return of personnel to reception centers after storm

H - Hour:
0200 29 OCT
(MON)

- H - HOUR:
- The start of tropical storms winds (>39mph sustained winds)
- OEM direct resources to return to safe areas when appropriate

*Notional timeline indicates "not later than (NLT)" times in order for operational success

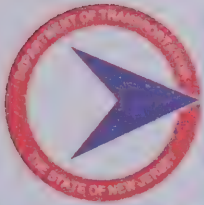


PRE STORM PREPARATIONS (CON'T)

- 28 OCT (SUN):
 - Regional EOCs activate at 1200
 - STMC activated at 1200
 - 1800: NJOEM increases to Level IV
 - Crews report to maintenance yards at 2000



- 29 OCT (MON): SANDY DELIVERS DIRECT HIT TO NEW JERSEY



POST STORM SITUATION





NJDOT IMMEDIATE STORM RESPONSE

“Restore Stability. Maintain Safety”

- Closed the breaches in Mantoloking by SAT, 3 NOV
- Cleared nearly 581 road incidents within 3 days
- Opened RT 35 (plus side streets) and RT 36 in one week
- Provided over 59,000 gallons of fuel to first responders and medical professionals
- Repaired/restored nearly 1100 traffic signals by 7 Nov
- BTW....Nor'easter snow storm on 7 NOV!



NJDOT POST STORM RECOVERY

- Establish the NJDOT “Presence” (Forward Command Post)
 - NJDOT OEM bus moved to Seaside Heights
 - Create relationships with law enforcement; utility companies; political leaders; Federal agencies
 - Create operational chain of command and reporting structure to NJDOT HQ
- Establish battle rhythm; scope and accountability
 - Organized teams and assigned individuals to take charge of affected locations
 - Organized and tasked emergency contractors based on locations and who was assigned to specific locations
 - Set up a daily schedule of meetings and report requirements. Empowered field personnel to “get the roads open”
 - Implemented a communication plan and communication rules
 - Provided daily situational report to HQ and NJSP personnel



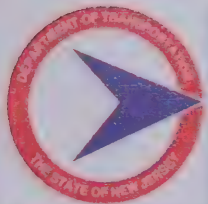
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- Affected area:
 - Area 1: RT 36; Sea Bright and Monmouth Beach (Sinkholes, Debris and Sand)
 - Area 2: RT 35; Pt. Pleasant to Mantoloking (Debris, Sand, Sinkholes and Breach locations)
 - Area 3: RT 35; Seaside Heights to Mantoloking (Sinkholes, Debris and Sand)
 - Area 4: RT 72; Manahawkin (Sinkholes, erosion)
 - Area 5: RT 37 Mathis bridge (structural damage)
 - Area 6: RT 152; Atlantic county (ramp destroyed)
 - RT 71 draw bridge

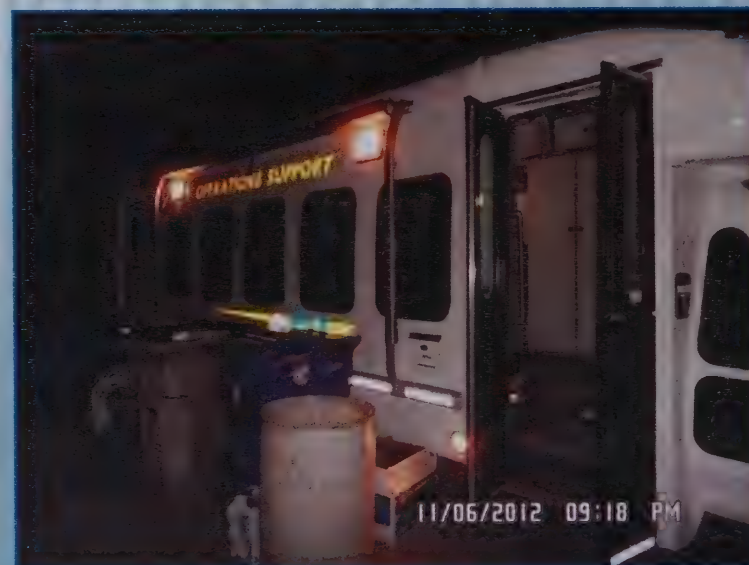


NJDOT POST STORM RECOVERY (CON'T)





NJDOT POST STORM RECOVERY (CON'T)





THE RESULTS

- Reconstruction of three breaches along RT 35 and connection to CR 528 complete and road fully open on 21 DEC (53 days after storm)
- 80 sink holes repaired
- 4425 truck loads of debris removed from roadways
- 4330 trucks loads of “clean sand”
- RT 71 draw bridge repaired by 19 DEC (51 days after storm)
- Over 1250 signs erected





KEYS TO SUCCESS

- Excellent Leadership
- “Can-Do” attitude
- Effective Operational organization
- Emergency contracts
- Good prior planning
 - “Storm kit” for field personnel
- Good coordination with Federal agencies; other state agencies and local officials





CONCLUSION

“JERSEY STRONG”

- The NJDOT is New Jersey's 1st, First Responder
- Follow on recovery efforts would not have happened as quickly or efficiently if we had not done our work as well as we did
- As devastating as Hurricane SANDY was, it showcased the NJDOT's Engineering and Operational prowess, dedication and resourcefulness



TOPICS

- PRE STORM PREPARATIONS
- POST STORM SITUATION
- IMMEDIATE STORM RESPONSE
- RECOVERY OPERATIONS
- RESULTS
- KEYS TO SUCCESS

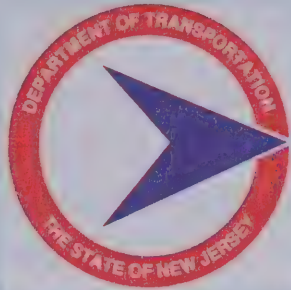




PRE STORM PREPARATION

- 24 OCT (WED): NJDOT OEM first warning to regions: (TS Sandy south of Jamaica)
 - Check chain saws; check recall rosters; top off fuel levels
 - Clean roadway inlets to mitigate flooding
 - Check communications and batteries
 - Review contra flow plans
 - Notify contractors to be ready to secure construction sites





NJDOT OPERATIONS

HURRICANE SANDY SUMMARY



TOPICS

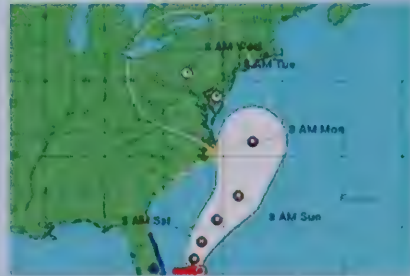
- PRE STORM PREPARATIONS
- POST STORM SITUATION
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- We were watching this system on 22 and 23 OCT, and on 24 OCT we started to officially shift NJDOT operations department into a hurricane readiness posture.
- Regions were directed to start checking storm inlets; landscaping and tree cutting equipment; fuel levels; communications and review Contra flow plans
- We also started to notify the contractor construction industry to start making plans to stop their work and configure the roads as much as possible for maximum traffic
- We also talked a lot about Hurricane Irene/TS Lee from 2011. The experiences of that storm helped up prepare for SANDY



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-Thursday the NJDOT continued to make hurricane preparations and stepped through check lists. The weather forecast are starting to get more confident that the storm will hit the mid Atlantic region of the country and pretty much all cones have NJ right in the middle.

- Friday is pivotal and things are moving fast. We started the day with the OEM increasing to Level II and we created a specific job number for Hurricane Sandy so our people can start to charge their time against that for tracking purposes.

- "H" hour was established by NJ OEM. "H" hour is the time when we expect to start getting sustained tropical force winds. It is also the planning point that drives our CONTRA flow plans and evacuation plans. We have specific, well established timelines that decision makers have to decide if we are going to perform those activities in order to get out of harms way by "H" hour.

- The process worked because the decision was made not to do a CONTRA flow.

- We wrapped up Friday with tight plans for further check ins and activations for the weekend.



TRANSPORTATION "SHORE EVACUATION" TIMELINE FOR HURRICANE SANDY

**KEY DECISION POINT:
GOVERNOR MAKES "GO"
or "NO GO" DECISION**

Shore county OEM's
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shelters (assumption)

ESF - 1/6 PRE-EVENT PREPARATIONS

NJ SP/OEM TAKE CHARGE AND EXECUTE
(ESF's SUPPORT)

STEADY
STATE OF
READINESS

H - 72hr	H - 48hr, 0200, 27 OCT (SAT)	H - 36hr: 1400, 27 OCT (SAT)	H - 30hr 2000, 27 OCT (SAT)	H - 24hr 0200, 28 OCT (SUN)	H - 12hr: 1400, 28 OCT (SUN)	H - Hour: 0200 29 OCT (MON)
<p>(ESF 6/ESF 1 LEADS)</p> <ul style="list-style-type: none"> - (ESF 6): Issue "Prepare to Shelter (PTS)" notification to state shelter sites - (ESF 1): Issue "Prepare to Evac (PTE)" notification to public and private bus companies. <p>Steady State:</p> <ul style="list-style-type: none"> - Monitor weather - Monitor state road construction sites - Evaluate plans and adjust as necessary - Frequent periodic checks with county and local officials on sheltering plans 	<p>(ESF 1/6)</p> <ul style="list-style-type: none"> - (ESF 1): Finalize location of staging areas and county personnel reception centers. Communicate to county OEMs - (ESF 1/6): Issue 2nd PTS and PTE notifications - (ESF 1): NJT identifies necessary transportation resources (public and private) - (ESF 1): DOT activates EOCs (NJT staffs STMC) - (ESF 1): Commence regular conf calls - (ESF 1) Test communications - Adjust plans/resources 	<p>(ESF 1)</p> <ul style="list-style-type: none"> - NJT puts rail assets away 	<p>(ESF 1)</p> <ul style="list-style-type: none"> - NJT starts moving bus and para-transit assets to staging areas 	<p>(Governor)</p> <p>"GO" - "NO GO"</p> <p>decision by Governor to implement state supported sheltering and transportation</p> <p>(OEM - ESF 1/6)</p> <ul style="list-style-type: none"> - (ESF 6) Open state shelters - (OEM) Direct county OEM's to open county reception centers. Commence processing of personnel to be transported to state supported shelters - (ESF 1) NJT Commence movement of people from reception centers to state supported shelters 	<p>(OEM - ESF 1)</p> <ul style="list-style-type: none"> - NJT stops rail operations - DOT, NJT, OEM begin planning details for return of personnel to reception centers after storm 	<p>H - HOUR:</p> <p>The start of tropical storms winds (>39mph sustained winds)</p> <ul style="list-style-type: none"> - OEM direct resources to return to safe areas when appropriate

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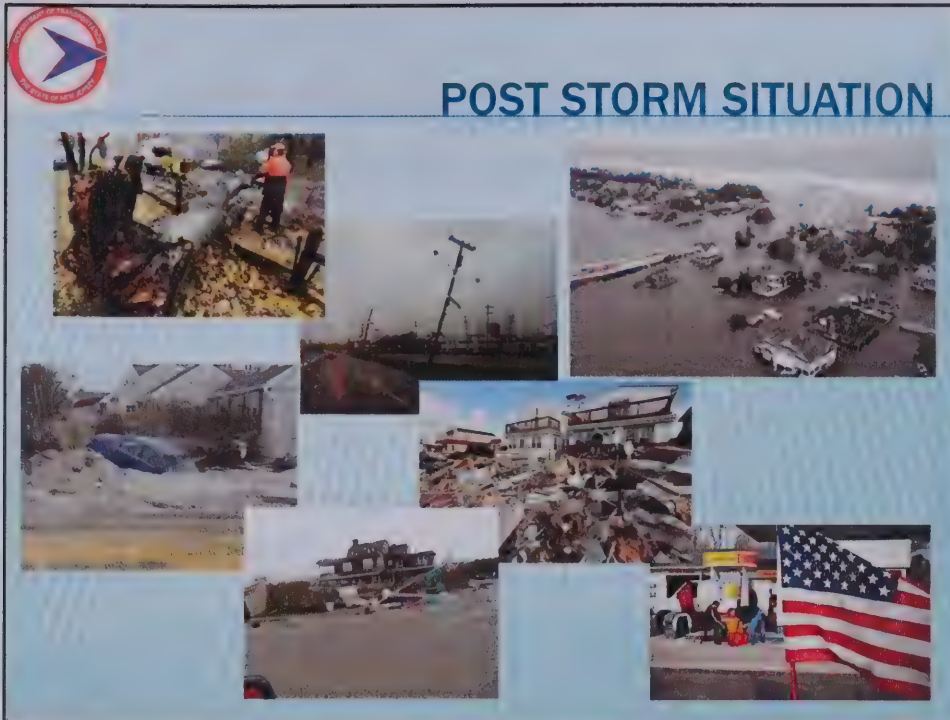
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-On Sunday we went into full activation. All regional emergency operations centers were activated and fully staffed; the Statewide Traffic Management Center (STMC) was staffed as well

- NJ OEM increased the state level of readiness to Level IV and our crews reported at 8pm

-The storm hit in the early morning hours of Mon, 29 OCT

- Talk about personal experience at STMC



As the storm started to subside and the sun came up we started to assess what we were about to deal with

- Road closures due to down trees
- Power outages throughout most of the state
- Debris blocking many roads; especially along the shore
- The breach at Mantoloking severing RT 35
- A couple of days into this, we had to deal with fuel shortages...let me talk about that for a minute
- We also had a fast growing problem with traffic signals that were damaged and/or without power creating a traffic challenge for law enforcement and NJDOT
- Sand and debris

-581 "Incidents (Closures or road closures)". Mostly road closures due to down trees/wires.

Nearly all were cleared in about 3 days

-Heavy debris and sand clogging RT 36 and RT 35

-Three "breaches" across RT 35 in Mantoloking

-RT 71 draw bridge flooded. Electrical and mechanical damage. Bridge is inoperable

-RT 72 in Manahawkin sustained eight (8) erosion sites

-RT 152 in Atlantic county destroyed

-RT 37 Mathis bridge has extensive scouring

-Eighty (80) sink holes along RT 35 and RT 36

-Approximately 1100 traffic signals damaged or without power. Statewide traffic safety situation

-Fuel shortage. NJDOT tasked to provide fuel to first responders and medical professionals personal vehicles



NJDOT IMMEDIATE STORM RESPONSE

"Restore Stability. Maintain Safety"

- Closed the breaches in Mantoloking by SAT, 3 NOV
- Cleared nearly 581 road incidents within 3 days
- Opened RT 35 (plus side streets) and RT 36 in one week
- Provided over 59,000 gallons of fuel to first responders and medical professionals
- Repaired/restored nearly 1100 traffic signals by 7 Nov
- BTW....Nor'easter snow storm on 7 NOV!



NJDOT POST STORM RECOVERY

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 - Organized teams and assigned individuals to take charge of affected locations
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 - Set up a daily schedule of meetings and report requirements. Empowered field personnel to “get the roads open”
 - Implemented a communication plan and communication rules
 - Provided daily situational report to HQ and NJSP personnel

The first step NJDOT did for Recovery was to set up a “Presence” at the worst part of the affected shore area. We mobilized and set up our emergency bus to Seaside Heights where the NJSP established a Command post.

The next thing we did was get ourselves organized and put into a “battle rhythm”. We broke the manmouth task in front of us into smaller, more manageable parts and assigned specific people to take care of those parts. We then assigned resources; set up goals and reporting/communication business rules. The guys went to work with their contractors and got the job done.



NJDOT POST STORM RECOVERY (CON'T)

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We first broke our efforts into six “affected areas” plus the RT 71 draw bridge. So, there were essentially seven major areas we were concentrating on during the initial recovery efforts.



NJDOT POST STORM RECOVERY (CON'T)



"A picture speaks 1000 words". These next couple of slides are just a handful of some of the photos we took while beginning our recovery effort. This operation proved to be extraordinarily emotional for many of our DOT personnel and contractor personnel.

- It is very hard to comprehend the amount of sand and damage we were confronted with. It is also hard to understand just how dangerous the situation was in the early parts of recovery. There was no water, no electricity, no gas. Because the road were plugged and full of sink holes there were many spots it would have been very difficult for first responders to get to should someone get hurt. We worked under a high element of risk.



NJDOT POST STORM RECOVERY (CON'T)

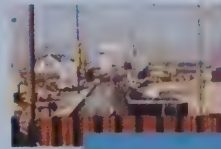


- Typical sink hole
- Debris, sand and structure blocking the road
- Sand cleaning operations
- NJDOT OEM bus at command post in Seaside Heights



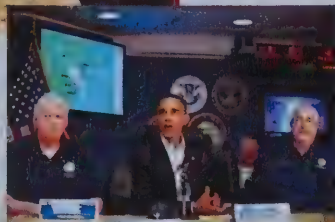
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KEYS TO SUCCESS



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- Effective Operational organization
- Emergency contracts
- Good prior planning
 - “Storm kit” for field personnel
- Good coordination with Federal agencies; other state agencies and local officials

- President, Governor, Commissioner, Deputy Commissioner and Assistant Commissioner
- The NJDOT is a results driven agency. We understand that a good working transportation infrastructure is vital to the proper functioning of the state. Every DOT employee who worked on SANDY recover kept this in mind and worked with that attitude.
- The NJDOT Operations division is structured well to handle an emergency like SANDY and continue to perform other basic functions like snow removal and road maintenance.
- Having active time and material emergency construction contracts in place was gold. Our contractor partners showed up with excellent resources and manpower and worked tirelessly with NJDOT to open the transportation infrastructure
- A lesson learned from Hurricane Irene was to create “storm kits” for our field personnel. This greatly aided them in capturing all the necessary description of damages for future reimbursements
- The DOT established and maintained effective and close working relationships with FHWA, FEMA, NJSP, NJ DEP as well as municipal law enforcement and elected officials

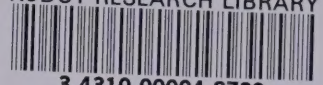


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